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A FRIENDLY LEAFLET BREEDS GOOD WILL

Clayton Road, St. Louis County, Mo., a Modern 65-Foot Concrete Pavement

ALPHA AIDS

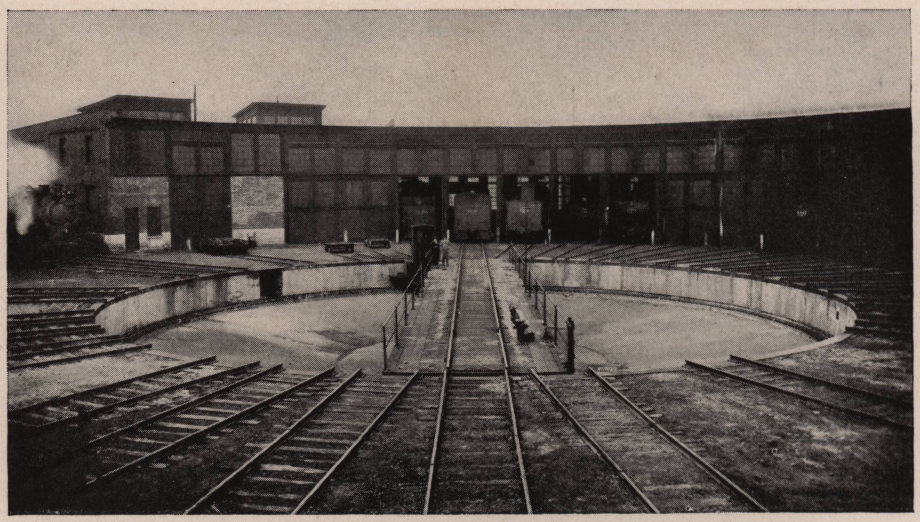
No. 65

Published at Intervals in the Interests of Sellers, Buyers and Users of PORTLAND CEMENT by the

ALPHA PORTLAND CEMENT CO.

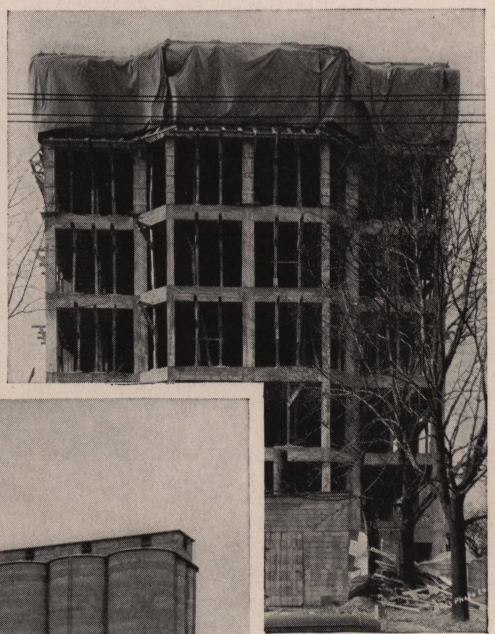
Easton, Pa.
Chicago, Ill.

WITH THE CAMERA

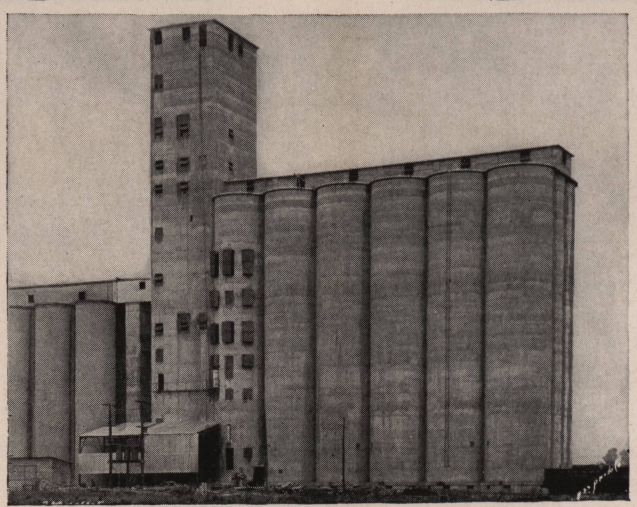


(Above) Turntable pit, 100-ft. diameter, for the roundhouse of the Missouri Pacific Railroad Company at Dupo, Ill. Ready-mixed ALPHA CEMENT concrete furnished from the General Material Company's plant at St. Louis, a distance of twelve miles

(Above) Group of fourteen coal silos designed and constructed by Nels H. Johnson, Chicago, Ill., for John Bigane & Sons, Chicago. 2500 barrels ALPHA CEMENT used



(Above) Apartment building constructed in Indianapolis, Ind., during the winter months. Tarpaulin protection on top floor to prevent concrete from freezing. Arthur Boynham, Builder and Architect, Indianapolis. ALPHA CEMENT furnished by United Building Supply Co., Indianapolis, Ind.



(Above) Indianapolis, Ind., Public Elevator. Capacity 1,000 000 bushels. Bacon & Tislow, Architect and Consulting Engineer, Indianapolis; B. W. Grant, Contractor, St. Louis, Mo. 15,000 barrels ALPHA CEMENT furnished by Charles Hilker & Sons, Beech Grove, Ind., a suburb of Indianapolis

Traffic-Strangled Cities Relieved by Wider Streets

THERE are always certain streets where traffic concentrates and in order to avoid congestion, these must have sufficient width to insure the smooth flow of travel.

It is now quite generally realized that congestion is costly and that motor vehicles lose a large part of their usefulness if they cannot be driven safely at reasonable speeds without a rapidly mounting accident rate. City streets are being designed to speed up traffic, for travel habits and personal convenience throw peak loads upon a few main streets.

It is as necessary to unscramble the traffic jams in cities as it is on main arteries of highways. Some sections of the country where traffic is dense have already constructed super-highways permitting several lanes of traffic, and progressive cities, seeing the advantages of wide highways in speeding up traffic, are imitating the example by planning wide streets in new sections and widening narrow streets that carry heavy traffic.

Figures indicate that street widening generally increases the value of abutting property to a point exceeding the cost of the project. When a heavily traveled street is widened, it is not a speculation in any sense of the word.

Besides enhancing the value of abutting property, widened streets have stimulated business and residential growth on subdivided properties, they have changed low-class residential property into high-class business property and they have transformed ordinary business frontage into highly desirable property.

Property values in progressive cities naturally increase as time passes, yet statistics show that the acceleration of values is considerably more marked on widened and improved thoroughfares. In one city a street widened to 76 feet was valued for tax purposes at $325 a front foot before the widening and afterwards the value rose to $1000 a front foot, an increase of about 207 percent. Property along a comparable street in the same city, not widened, rose a scant third in value.

Another city presents a similar case. Property on a street widened from 33 feet to 120 feet, changed in value from $523 a front foot to $1895 a front foot four years later, an increase of 254 percent. Property along a similar street, which was not widened, increased but 68 percent in value during the same period of time.

Wacker Drive, Chicago's two-level street, has already expressed in dollars and cents the wisdom of widening streets and of double decking them where traffic warrants. Wacker Drive has added considerably more to the value of downtown Chicago than its actual cost of about $22,000,000. The augmented value of abutting property and not including the sharpened value of adjacent property is conservatively estimated at $65,000,000.

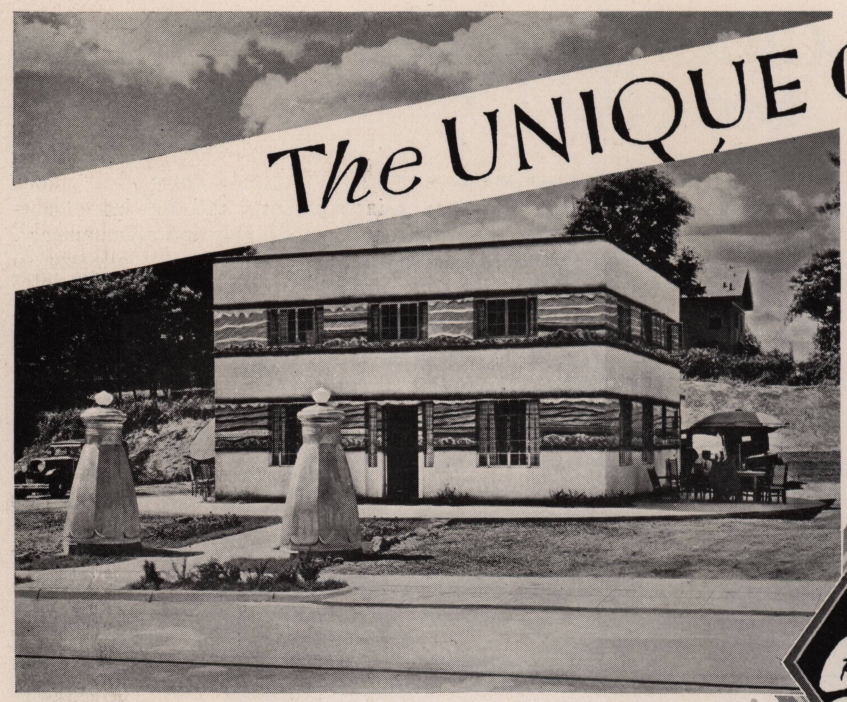
(*Continued on page 2*)

Our Cover Picture

THE illustration on the cover page is of Clayton Road in St. Louis County, Mo. A clean, unobstructed 65-foot ALPHA CEMENT concrete pavement. Pavement laid in two sections. The center strip was put down first and the side strips later. The Rock Hill Quarries Company, Webster Groves, Mo., furnished 17,400 barrels of ALPHA CEMENT for this modern, wide street.

Widening La Salle Street, Chicago, Ill., from 36 feet to 74 feet. Three large mixers working abreast pouring an 8-inch concrete base. Contractor: White Paving Company, Chicago. Dealer: Consumers Company, Chicago. 16,000 barrels ALPHA CEMENT used

The UNIQUE COMMANDS Favorable Attention



GOOD advertising is not limited to display messages in the magazines or newspapers, signs, posters, etc. Enterprising concerns resort to original schemes to attract notice.

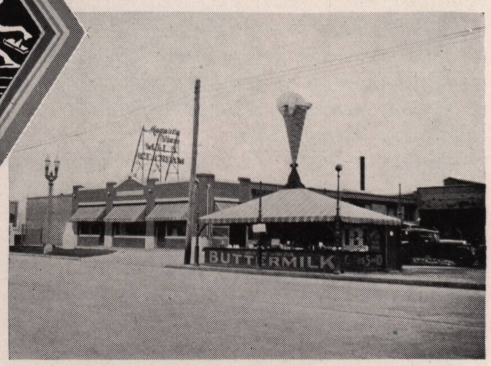
Everybody likes a bit of make-believe with reality in this busy world and this combination is found at Fenton's Sandwich Shop, Kennedy Heights, Cincinnati, Ohio. It rapidly became known as "The Sign of the Shakers," deriving its name from the two large salt shakers which mark the entranceway.

It is the largest "sandwich in the world." At night two large searchlights play upon it. What appears to be a large blue saucer, upon which rests the building proper, is a raised dais of concrete. The building, 32 by 32 by 20 feet high, and the saucer, 62 feet in diameter, resemble a large double-decker sandwich on a plate. The sandwich, edges of lettuce and all complete, is constructed of stucco and is ingenious with its markings of paint to resemble all the ingredients of a sandwich... pickle, lettuce, tomato and meat. Surrounding the building is ample parking place for 150 automobiles, which is lighted with colored electric lights. During the day a balloon, eleven feet in diameter, flies at a height of two hundred to four hundred feet over the "sandwich." The interior of the shop is furnished in bright colors of green and subdued orange and gaily painted tables and chairs...a restful haven for tired tourists.

Back of this distinctive shop is the man who originated this particular type of building, Frank S. Fenton of Cincinnati. He evolved the idea of a sandwich shop which would sell its own wares by its appearance. Abner E. Foster, an architect of Cincinnati, was engaged to put into working plan the novel idea and this is the first building of its kind in the country. The building was constructed by J. O. Bagley of Cincinnati, and the Crew Builders Supply Company of Norwood furnished ALPHA CEMENT.

The interior of the "sandwich" will seat 82 people, while 150 more can be accommodated on the plate. The appeal of this distinctive eating place is evidenced by the facts that on an average 950 people are served daily, with a high mark of 1500 in one day. They have served 38 gallons of coffee in one day.

The other illustration is of the Mountain View Dairy along the drive from Long Beach to San Pedro, California. The ice cream cone filled with "ice cream" and the milk bottles filled with "milk" are all made of concrete. No matter how fast a motorist is traveling, he must be aware of this advertising



...the ice cream cone is extremely realistic in form and coloring. The milk bottles, fully eight feet tall, also tell their story to those who pass by. On one bottle, in neat black letters, appears the message "Always good," while the other bottle proclaims it "Always the same."

Certainly such modern places of business are distinctive and unforgetable. Concrete plays its part in making them durable and permanent.

(*Concluded from page 1*)

On page 1 is shown a construction view of one of the projects that Chicago has found necessary to alleviate the traffic congestion in and out of the Loop District. It shows the laying of an 8-inch concrete base on La Salle Street, which runs approximately twenty blocks from Lincoln Park to Wacker Drive. The street was originally 36 feet wide and has now been widened to 74 feet. The buildings had to be moved back from the old curb line to their present location.

Placing Concrete

Concrete should be placed in the forms as soon as possible—in no case more than 45 minutes after mixing. It should be deposited in layers of uniform depth, usually not exceeding 6 inches. When placed in the forms, it should be tamped and spaded, so as to cause it to settle thoroughly everywhere in the forms and produce a dense mass. By "spading" is meant the working of a spade or chisel-edged board in the concrete and between it and the side of the forms, moving the spading tool to and fro and up and down.

Norfolk and Suffolk Manor Apartments

Two Units, Each Six Stories High. Total of 276 Suites

By Karl F. Otto, Architect

PHILADELPHIA'S newest apartment structure towers above the north city line, representing ideas and appointments that are ten years ahead of the time, according to leading builders. It is the first completely "fire protected" apartment house group erected in accordance with the provisions of the new Building Code of Philadelphia, Pa. It was designed by the writer, Karl F. Otto of Philadelphia. This two-unit apartment group is owned by the Clearview Apartment Company and was built by John Loughran's Sons, Inc., contractors and builders of Philadelphia, who have had two generations of building experience.

The two units are practically identical and face each other on opposite sides of Clearview Street, taking both sides of a city block. Court indentations opposite one another create the effect of unified grouping and symmetry on a privately owned tract, with a driveway approach through the central court. The buildings are the only ones fronting on Clearview Street in the block and the tenants and guests enjoy the peculiar advantage of being able to drive direct to their front door instead of being forced to travel a long, deep court to gain access to the building, a convenience which is especially appreciated in inclement weather. The view here is of the Norfolk unit; the Suffolk apartment is an exact duplicate of this one but on the opposite side of the street.

The buildings are six stories and basement, containing apartments ranging from the small efficiency type of two rooms and bath on up to the more pretentious quarters comprising sun porch, living room, dining room, kitchen, two bedrooms and bath, and so arranged that not more than five apartments per floor are served from a separate entrance lobby, elevator, stairway and fire tower. There are no objectionable long corridors and the apartments are of the cross-ventilated type, assuring a maximum of light and air and making for the best multi-family living conditions.

In construction, the architect and the owner were confronted with the requirements of a brand new Code governing a type of construction that so far was untried in this field. After careful consideration of the various methods from every angle, it was decided our best purposes would be served by the following program: concrete footings; stone foundation walls; structural steel skeleton frame; brick veneer, hollow tile backed spandrel walls; junior steel floor beams; $2^1/_2$-inch poured concrete floor and roof slabs carried on stamped metal floor plates clipped on junior beams; gypsum block for interior partitions and metal lath ceilings fastened to underside of junior beams.

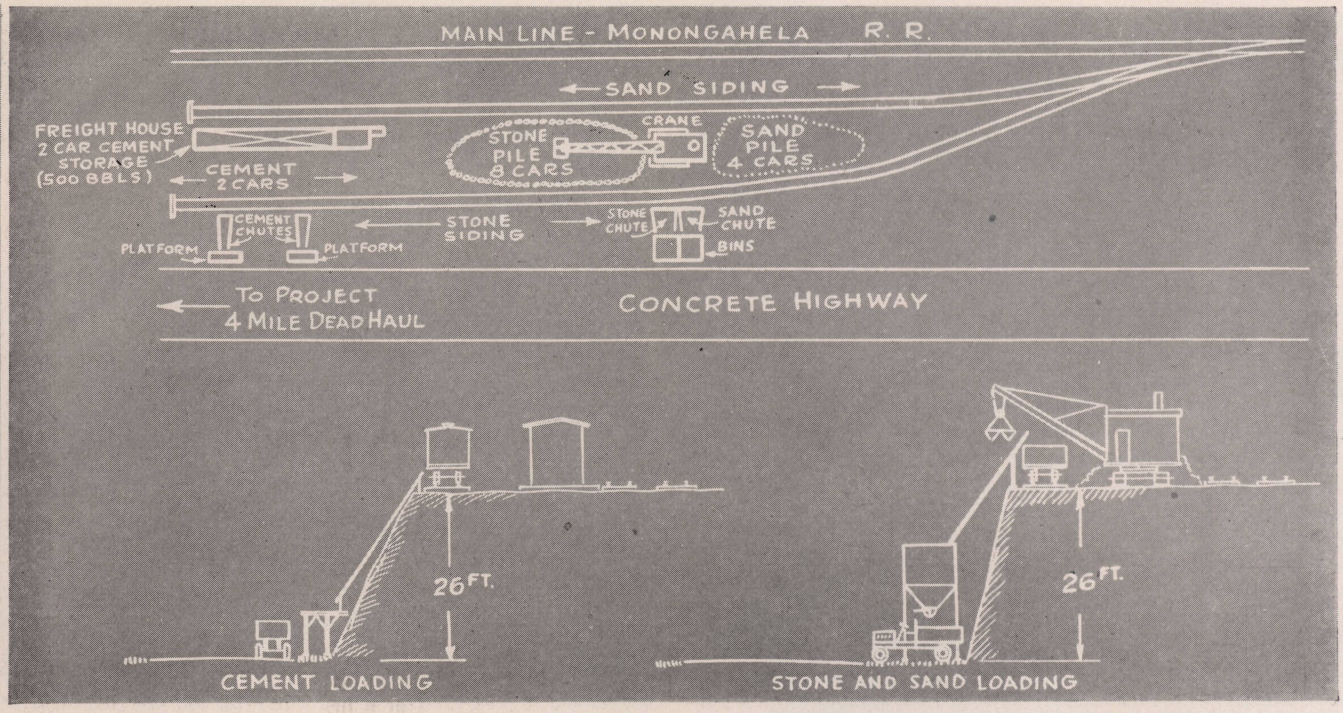
While to the uninitiated, this project would be set down as essentially a "brick and steel" building, anyone watching its progress from the digging of the basement to completion could not help but recognize that "portland cement" played a very important role from start to finish. In fact, it was present in some form or other in all the major divisions of the construction work as well as many of the minor branches of finishing and decoration. Many hundreds of barrels of this essential product of modern permanent construction were used to unite the component parts in a completed multi-family residence building group that is sound structurally, safe against the spread of fire and protected against the corrosive action of the elements. Its esthetic value was enhanced by the use of cement.

Starting with the foundations . . . footings and walls . . . which contract was executed by the Frank Mark Contracting Co. of Philadelphia, all wall and column footings were of certified yard-mixed concrete . . . 1:2:4. Stone foundation walls were laid in a 1:3 mix portland cement and concrete sand mortar. The steel billets for column bases were leveled and set on a grout of portland cement and bar sand mixed 1:2.

The exterior walls of the buildings above first floor level are

(*Continued on page 10*)

View of Norfolk unit of the Norfolk and Suffolk Manor Apartments. The Suffolk unit is an exact duplicate of this one and is on the opposite side of the street. Robert B. Galbraith, Philadelphia, building material dealer, furnished 5000 barrels ALPHA PORTLAND CEMENT



(Above) **Layout of proportioning plant for handling materials from cars to storage piles and to trucks**

Ingenuity on Road Job Saves Time and Money

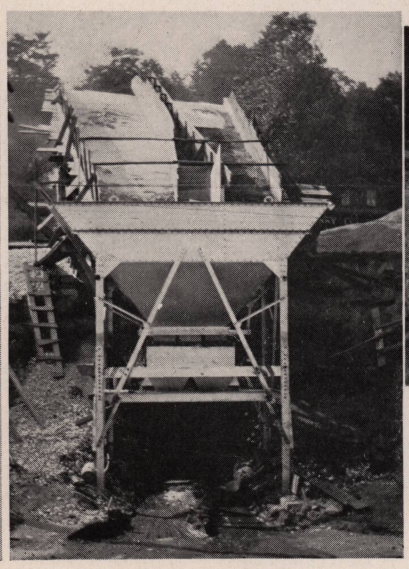
by **D·W·KORTH**

MODERN specifications for road and street paving jobs prohibit the storage of aggregates upon the subgrade because it prevents the proper preparation of the subgrade, makes accurate measuring difficult, and results in large quantities of earth being shoveled up with the materials. A central proportioning plant, from which batches proportioned by weight are hauled to the mixer, is the compulsory method prescribed by the Pennsylvania Department of Highways for handling aggregates. This is the preferred procedure in some states, although in others the concrete may be mixed at a central plant and hauled to the subgrade.

In order to economize time and save money, a good layout for the proportioning plant is essential and an adequate water supply at low cost is highly desirable.

Pratt & Moore, Inc., of Hollidaysburg, Pa., contractors on the Pennsylvania Department of Highways' project at Carmichaels, Pa., solved both problems so cleverly that considerable time and money were saved. The site of the work was a four-mile dead haul from the railroad station at Rices Landing, Pa. Straight line sidings for the delivery and unloading of the building materials were available only at excessive cost or for other considerations not satisfactory to Pratt & Moore, Inc.

To cope with this difficulty, it was of prime importance to design an efficient



(Left) **Chute for placing sand and stone in aggremeter, or batch bins**

(Left) **Chute for unloading cement direct from cars to trucks**

plant layout, a sketch of which is illustrated on opposite page. A truck was driven to the cement platform at street level, where bags of ALPHA CEMENT were chuted from the railroad level approximately 26 feet higher. The proper amount of cement was loaded in each batch compartment on the truck. Then the truck was driven to the sand and stone batcher bin, also at street level, where the proportioned amounts of sand and stone were placed in each compartment. The batch bin or aggremeter was loaded by chutes from the higher level to each bin compartment.

The illustration of the plant layout clearly shows how an ordinary type of crane with bucket unloaded the sand and stone from the railroad cars on either side of it. Stock piles were maintained for both aggregates, sufficient at all time for a day's run or better. Emergency storage for ALPHA CEMENT was obtained in the freight house . . . see sketch. The use of the chutes proved most satisfactory and facilitated handling of materials to a marked degree.

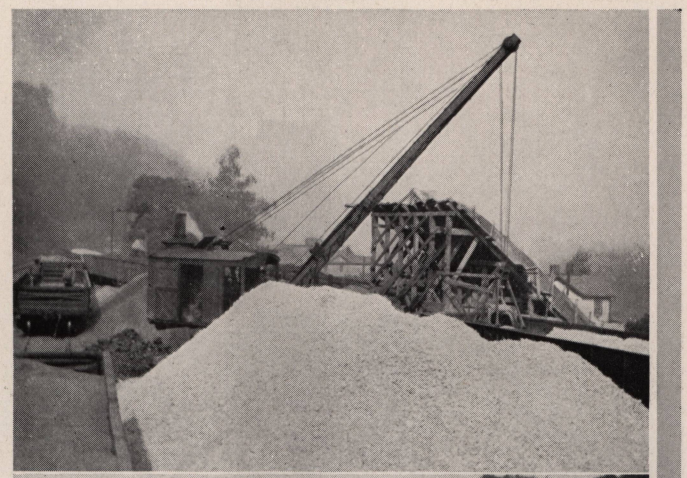
The splendid coöperation of officials and employees of the Monongahela Railroad Company, plus excellent service, were a great aid in maintaining the efficiency of the plant.

An ingenious method of obtaining water was also employed. The town of Carmichaels had no central water supply and the season . . . summer of 1930 . . . was unusually dry, resulting in the total disappearance of water in the local streams. In a normal season, water could have been obtained from streams adjacent to the job.

Faced with the expensive and time-requiring proposition of laying a pipe line to the Monongahela River some four miles away and at a much lower level, which would also necessitate numerous and powerful pumps, Pratt & Moore, Inc., drilled two wells, one 95 feet deep and the other 65 feet deep. Steam was injected into the wells which jetted out the water. The water was run under the roadway through an existing drainage pipe to a reservoir, where in turn it was pumped to the mixer.

The drawing of the layout of the plant and the accompanying views make it plain how the contractor resorted to real ingenuity in building the concrete highway at Carmichaels, for which S. M. Walton's Son, Rices Landing, Pa., furnished 15,000 barrels of ALPHA CEMENT.

Concrete utilizes the materials Nature has provided plentifully and distributed broadly. There is no secret about concrete. It permits heavy construction to be cast, as it were, in place.

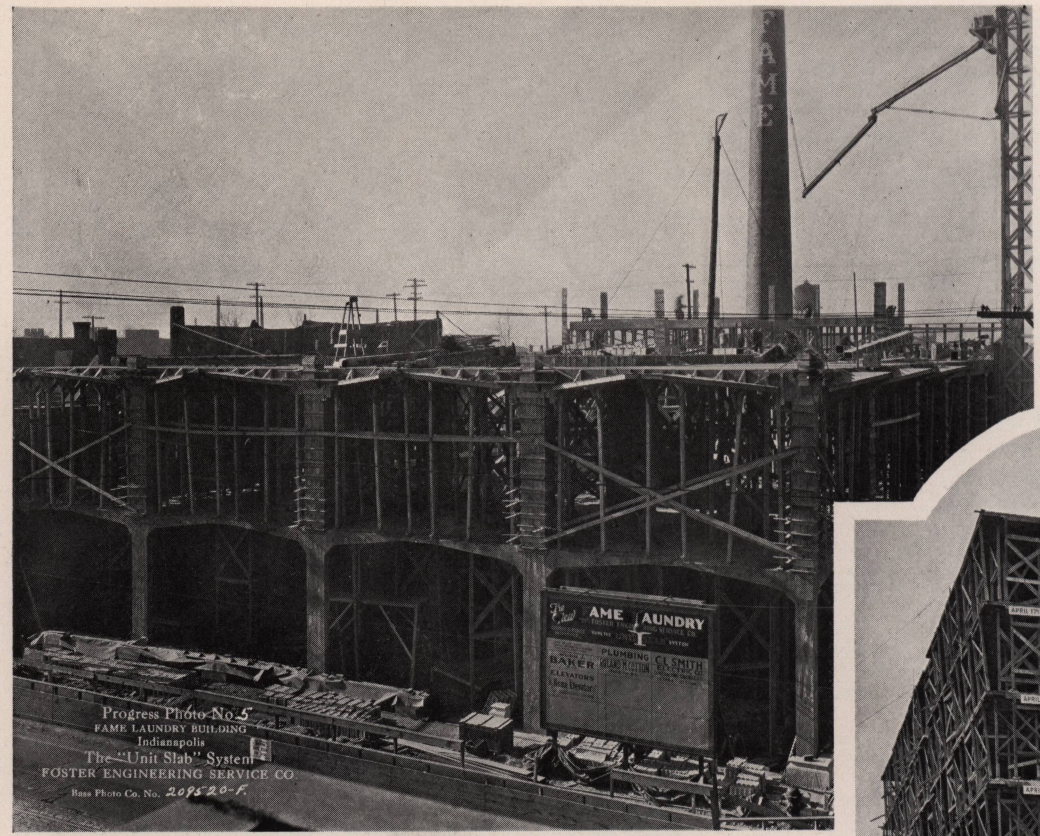


(Right) Crane unloads sand or stone from cars to storage. Loads direct from storage or cars to chute

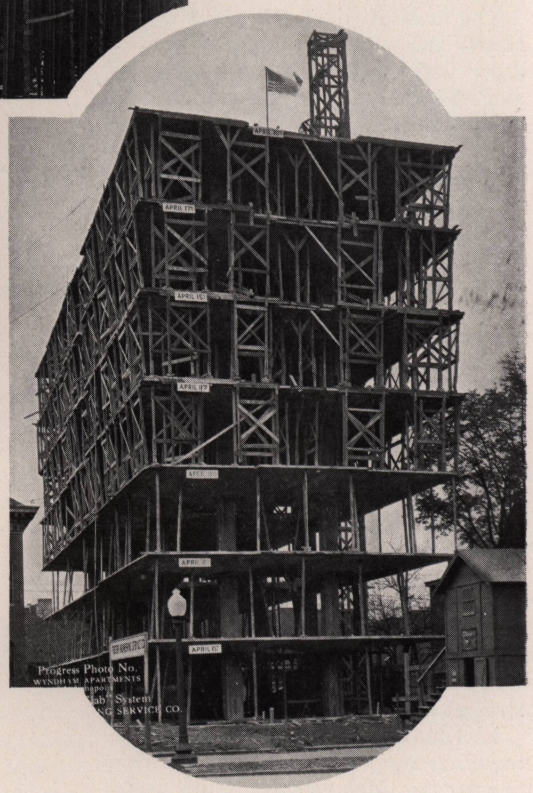
(Right) Injecting steam into well to jetty out the water

(Right) Pump and water reservoir

(Right) Completed concrete highway to Carmichaels, Greene County, Pa.



Construction view of the Fame Laundry Building, Indianapolis, Ind. Built by the Foster "Unit Slab" system. 3,500 bbls. of ALPHA CEMENT used.



Wyndham Apartments, Indianapolis, Ind. Built by the Foster "Unit Slab" system. Signs show dates each floor was poured. 2,000 bbls. of ALPHA CEMENT used.

LIKE UMBRELLAS STACKED ONE ON TOP OF THE OTHER

THE buildings illustrated on this page were constructed by the Foster Engineering Service Co., architects and builders, Indianapolis, Ind., employing the Foster "Unit Slab" system and using ALPHA CEMENT. The views show that no outside supporting columns are used.

The "Unit Slab" is a patented structural concrete design and the Foster Engineering Service Co. states that it is elementary in its essential principles and fundamentally simple in action. For balanced loading it is a cantilever slab with load central on the column. In principle it does not differ from a sloped top footing or the cantilever head in flat-slab construction.

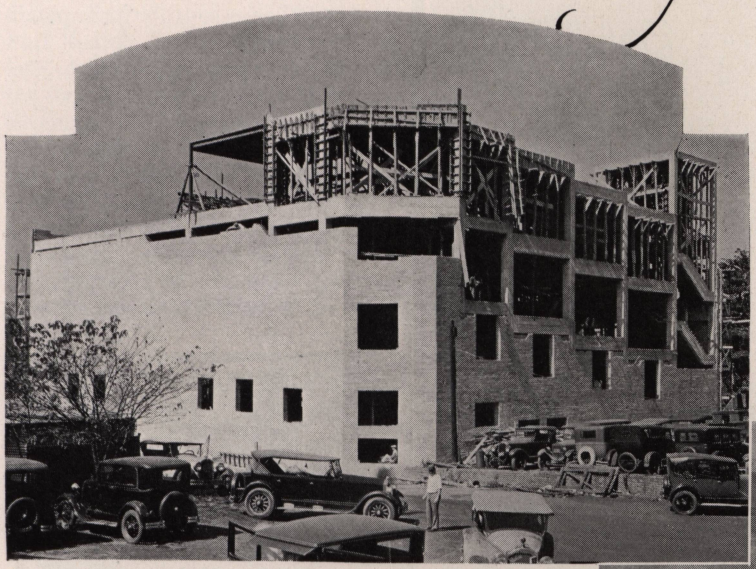
If the load is unbalanced, the slab still acts as a cantilever, though with a slightly different distribution of resisting moments on a right section. The unbalanced moment in the slab is carried partly by moments in the connecting columns and, except for an improbable condition of loading, partly by shears in the connecting slabs. The moment at the column head is distributed between the connecting columns in proportion to their stiffness and design for the resulting bending moment on the column in addition to the direct load.

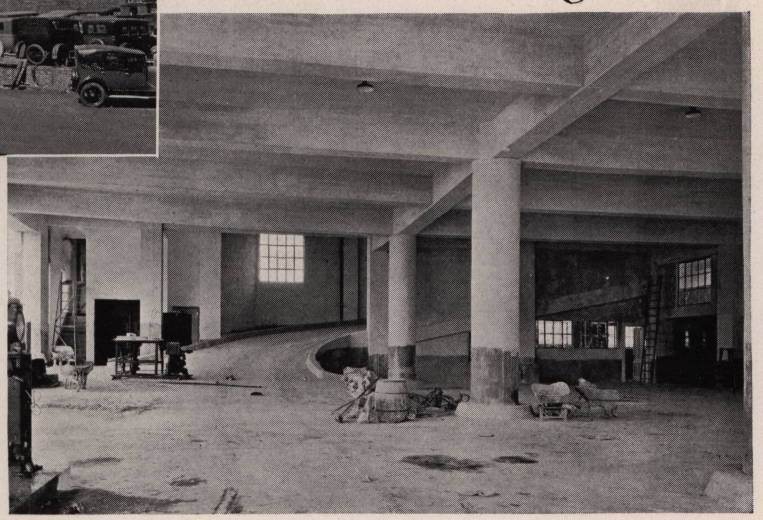
The thin slab between units on center line of columns may be subjected to some positive moment. Any such moment is carried by cantilever action and this action is definitely provided for. The same is true for positive bending moment in the square slab between units on the diagonal line of columns. Analysis by standard methods considering the relative stiffness of the flared unit and the flat intervening slab shows that the positive moment needed to prevent continuity is very small. Usually, light bottom steel in this slab is provided to distribute any cracks, although no trouble has been experienced from this source where the steel has been omitted.

Steel and concrete stresses in the slab are provided for by the usual methods, treating the slab as a wide beam acting as a whole. This gives a beam of trapezoidal section with a relatively small width in compression at the column and a wide band of steel. That this steel is effective is indicated by Talbot's footing test at the University of Illinois and by other experiments, as well as by theoretical considerations.

The "Unit Slab" system is unique, and therefore interesting, because it is apparently a radical departure from the usual types of reinforced concrete design. In brief, the system provides a structure made up of an assembly of typical units consisting of an octagonal slab whose depth decreases in any direction radial to the column center, and this slag supported by a centrally located column. Each unit is figured as being a balanced structure capable of standing alone and the slab stresses are figured in cantilever from the column center. All slab steel is placed in the top of the slab, and the method of calculation used assumes that the top of the slab is always in tension and that the bottom is always in compression.

A Modern Garage of Firestone Service Stores Inc. ATLANTA ~ GA.





TO APPEAL to the automobile owner, modern garages must be conveniently located in respect to business centers and be so planned and constructed to facilitate quick and easy car handling within the structure and ready access from without. The convenience of a garage goes beyond its own structure. Business generally, including hotels and department stores, finds the modern garage a desirable adjunct.

Most modern garages have been built of reinforced concrete, due undoubtedly to the adaptability of concrete to the ramp method of vertical transportation and to the fire safety afforded. Ramp construction generally involves the building of sloping floor slabs which allow a car to proceed from floor to floor under its own power and since ramps and floors can be integrally built with concrete, it is a popular material for ramp garages.

The new home of the Firestone Service Stores Inc., Atlanta, Ga., shown on this page, is a ramp garage with a reinforced concrete frame and precast concrete columns. Both views were obtained during its construction, the one showing clearly the concrete ramp and the other the exterior finish of concrete stone tile and brick. The concrete stone tile was furnished by the Keeling Cassidy Company and ALPHA CEMENT by the Atlanta Aggregate Company.

The modern garage is probably the ultimate in scientific building layout. As the structural design of an office building is based on the probable requirements of tenants, so is garage layout based on the size of cars to be handled. Cars must be placed between columns without loss of area through excess space and this problem is usually solved by spacing the columns so as to allow one, two or three cars to be parked between columns without a surplus of unoccupied floor area. This arrangement is most economical of space and does not complicate the structural design.

Garage layout really begins with the consideration of car sizes. If an analysis of car sizes shows that an area of about seven by fifteen feet is a safe design unit, such an area will park within its limits all but the longest cars whose lengths over fifteen feet are not a serious factor. Since the site of the garage has a fixed shape, the basic problem of layout is to park as many cars per floor as possible, using the average car area as a fundamental unit.

The basement of the modern garage of the Firestone Service Stores Inc. is used as a stock room, while the first floor and the three above are used for storing automobiles, with a capacity of one hundred cars. The four floors above the basement are connected by ramps for putting cars into storage and for taking them out.

The building was designed by A. Ten Eyck Brown, architect, James A. Barili, associate architect, and Robert G. Lose, consulting engineer, all of Atlanta, Ga. J. S. McCauley Co., contractors, Atlanta, built the garage and, in discussing the work with an ALPHA representative, spoke highly of the quality of ALPHA CEMENT and the excellent results of tests made of the concrete.

Proper design, good contracting methods and ALPHA CEMENT will give the desired results. Naturally, we are proud of the part ALPHA CEMENT played in the construction of this modern garage.

Many commercial garages are built on extremely valuable sites and it is imperative that the enterprise should pay the largest possible return upon the investment. A gain, by careful design, of one car per floor in a garage with space at ten dollars a month means an extra income of $120 a floor per year. The need of careful planning is important. A booklet on "Modern Garages" will be sent upon request.

Wading Pool for Youngsters at Punxsutawney's Pool

Public Pool in Nowell Park, Joliet, Ill. - Built by Park Board -at right-

COMMUNITY SWIMMING POOLS AID PHYSICAL DEVELOPMENT of BOYS AND GIRLS

DURING the last decade the popularity of swimming among old and young has greatly increased and it requires only a casual observation of the bathing beaches and pools on a warm day to realize that swimming stands paramount among all forms of recreation.

Communities are more and more beginning to recognize that the physical development of the boys and girls is of the utmost importance. No form of exercise is better fitted than swimming to improve the physique, to strengthen the heart and lungs, and to produce perfect coördination of the mind and muscles of the participant.

The overcrowded condition of places where people may go to swim indicates the need for more pools. Public beaches on natural bodies of water in many of our communities are so heavily attended that the addition of pollution to that already present becomes a serious menace to health. Public officials, civic organizations, and private enterprises will render worthwhile service to their communities by encouraging the construction of safe, sanitary, concrete swimming pools.

The pools shown here are excellent examples of swimming facilities for the public. The pools, it will be noted, were so designed to afford pleasure not only to those who could swim or who were learning, but to provide wading for the youngsters.

The Punxsutawney, Pa., community swimming pool was the gift of a local citizen, George C. Brown, president of the Punxsutawney Hardware Company. The swimming plant, comprising the major pool, a wading pool and bathhouse, is complete in every particular. The major pool is 60 feet in width and 120 feet in length. Its minimum depth is 2 feet, 4 inches, and its maximum depth is 8 feet, 7 inches. The wading pool, which is as popular as the big pool, is 25 feet by 25 feet, with a maximum depth of 18 inches, insuring safety for the little tots. Equipment for the big pool includes a diving board at the level of the pool, and a diving tower and board ten feet from the water's surface. A fountain at the shallow end of the pool aids in aerating the water.

The Punxsutawney swimming plant, including bathhouse, lighting, etc., represents a total expenditure of approximately $15,000, contributed entirely by Mr. Brown. But for the coöperation of everyone with whom the committee in charge of construction dealt, there is no doubt that the cost would have been at least $25,000. Russell G. Howard, DuBois, Pa., was the architect and the construction work was done by G. C. Cleaver & Co. of Big Run, Pa., with P. J. Cleaver in charge.

ALPHA AIDS

The Kurtz Coal, Lumber & Supply Co. of Punxsutawney furnished ALPHA CEMENT exclusively and the major portion of the building materials.

The municipal swimming and wading pool in Garfield Park, Indianapolis, Ind., measures 75 feet by 100 feet and is owned by the Park Board. It is modern in every respect and holds 300,000 gallons of water of government drinking specifications. It has a ten-foot diving tower and under-water illumination for night swimming.

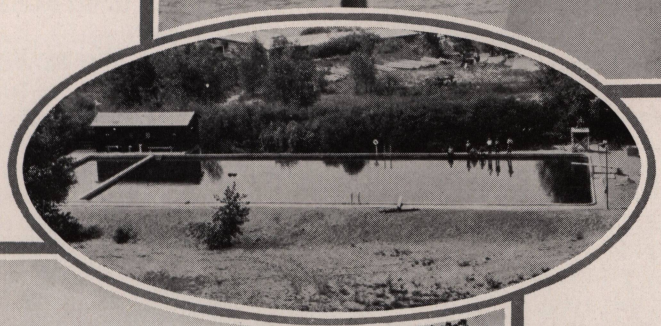
The lighting of pools from beneath the surface has a strong popular appeal. The under-water illuminated pool is especially safe, since every swimmer is continuously in sight of the lifeguard. Confusing shadows are eliminated. From the hygienic standpoint, it is recommended very highly, as any defect in the operation of the filter may be quickly detected by the increase in the turbidity of the water.

The combined swimming and wading pool was constructed at a cost of $45,000. The pool was designed by Frank B. Hunter, architect, Indianapolis. Ed. Perry, City Hall, Indianapolis, was the engineer and W. C. Martin of Indianapolis, the contractor. ALPHA CEMENT, used exclusively, was furnished by the Van Wert Company, Indianapolis. A mixture of one part ALPHA CEMENT, two parts sand and four parts stone, with six gallons of water to the bag of cement, was used. This gave a dense, watertight concrete, no waterproofing admixture being required or used. It is essential that a swimming pool be watertight and this can be attained with concrete which has been properly proportioned, mixed, placed and cured. Well-made concrete is dense and impervious.

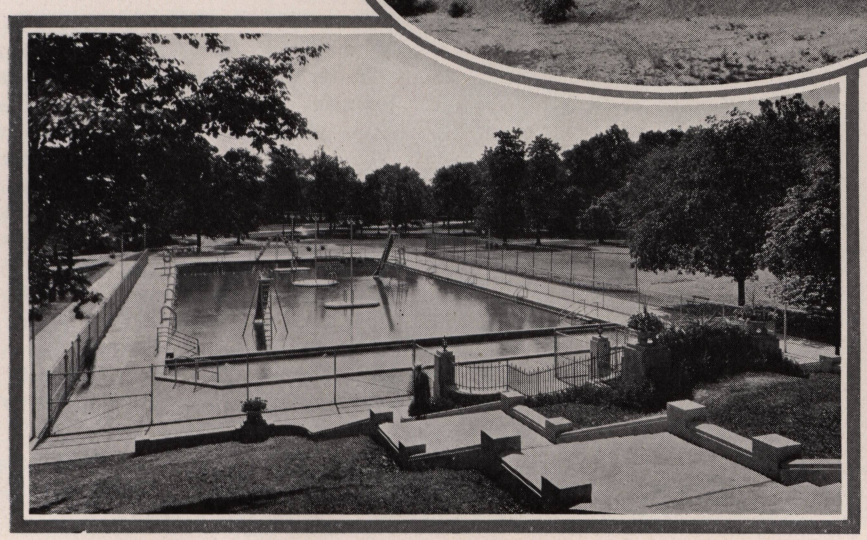
The pool in Nowell Park, Joliet, Ill., was built by the Joliet Park Board. It is 50 by 150 feet, 8 feet deep at one end and 18 inches at the other. H. Webster Tomlinson, architect, Joliet, designed the pool; Hansen & Peterson Company, Joliet, were the contractors and ALPHA CEMENT was furnished by the Werden Buck Company of Joliet.

Another interesting community pool is the one sponsored by the K. of P. Lodge at Black River Falls, Wis. The pool measures 60 by 150 feet and has a depth ranging from one to ten feet. It was designed by W. G. Kirchoffer, engineer, Madison, Wis., and built by Ryan-Davlin Co., Madison, Wis. ALPHA CEMENT was furnished by the Black River Falls Lumber & Mercantile Co.

Community Swimming Pool at Punxsutawney, Pa.



Community Pool sponsored by K. of P. Lodge at Black River Falls, Wis. -oval-



Public Swimming Pool Garfield Park, Indianapolis, Ind. Wading Pool for Children adjoins large Pool

ALPHA CEMENT in Campbell's Soup

THERE isn't any ALPHA CEMENT in Campbell's Soups. Quite the contrary. The Campbell Soup Company is famous for having in its product only the good food ingredients they should have there.

The way this ALPHA CEMENT happens to get into the Campbell Soup business is by being used in the new Campbell plant in the Dickinson industrial district of Chicago. The view on this page shows the building as it appeared when first put into use. The following details of the building are taken from the publication of the Chicago Chamber of Commerce. *ALPHA AIDS* is indebted, by the way, to the Chicago Chamber of Commerce for the use of the illustration:

"The first unit of the plant comprises 800,000 square feet of floor space, and the plans call for the construction later of an additional unit which will provide a total of 1,050,000 square feet of manufacturing space. The main building is a six-story reinforced concrete structure flanked by three-story buildings on either side.

"The fact that the plant will have a daily capacity of 3,650,000 cans of soup will give some idea of its enormous capacity. While the company produces 21 varieties of soup, tomato is the variety most favored by the public. Tomatoes to keep the plant busy will be shipped in from Illinois and Indiana farms. It will require some 200 tons of beans daily to satisfy requirements for pork and beans and bean soup.

"To assure a continual supply of cans under conditions of maximum economy the Continental Can Company is building alongside of the plant a four-story plant, 140 by 160 feet. Millions of cans will be produced daily and sent by conveyors direct into the Campbell Soup plant. The Campbell Soup plant will occupy when entirely complete some 25 acres of floor space and with the completion of the first unit 18 acres of floor space."

Battey & Kipp of Chicago were the engineers on this building and Henry Ericsson Co. of Chicago, the contractor.

The quantity of approximately 100,000 barrels of ALPHA CEMENT was used in this modern plant.

(*Concluded from page 3*)

10 inches thick, with a facing of brick and a backing of 6-inch hollow tile block erected by the Bateman Construction Company, of Philadelphia, laid and bonded with mortar of one part portland cement, three parts bar sand and ten percent hydrated lime. This branch also included fire division walls, fire towers, stair towers, elevator and dumb waiter shafts and all roof pent houses.

All structural steel columns, beams, etc., occurring in masonry walls were protected against corrosion by parging with portland cement and bar sand mixed 1:1, and applied by the above contractors as the walls progressed.

The Galbraith Paving Co., Philadelphia, was responsible for the general branch of concrete and cement work, including setting of $4\frac{1}{2}$-lb. and $6\frac{3}{4}$-lb. stamped metal plates to receive the $2\frac{1}{2}$-inch floor and roof slabs of ALPHA PORTLAND CEMENT, concrete sand and $\frac{1}{2}$-inch slag, mixed 1:2:4, which was floated to a level to receive sleepers and wood floor, except in the case of the flat roof, which was prepared to receive insulation and a built-up felt and gravel roof.

All 4-inch reinforced concrete slabs over boiler rooms, fire balconies, fire tower roofs, etc., were of one part ALPHA PORTLAND CEMENT, two parts concrete sand and four parts $1\frac{1}{2}$-inch trap rock. Boiler and machinery foundations were of similar construction. Basement floors were of 3-inch cinder concrete with a 1-inch cement and grit top coat, troweled smooth and cut into blocks of convenient size.

Public footways around the buildings are of cement of usual Bureau of Highway Specifications for this work, with lampblack worked into wearing surface. Private walks from street line to the various entrances were constructed with a 4-inch concrete base and finished with colored slate flagging matched and set in a grout of ALPHA PORTLAND CEMENT and bar sand.

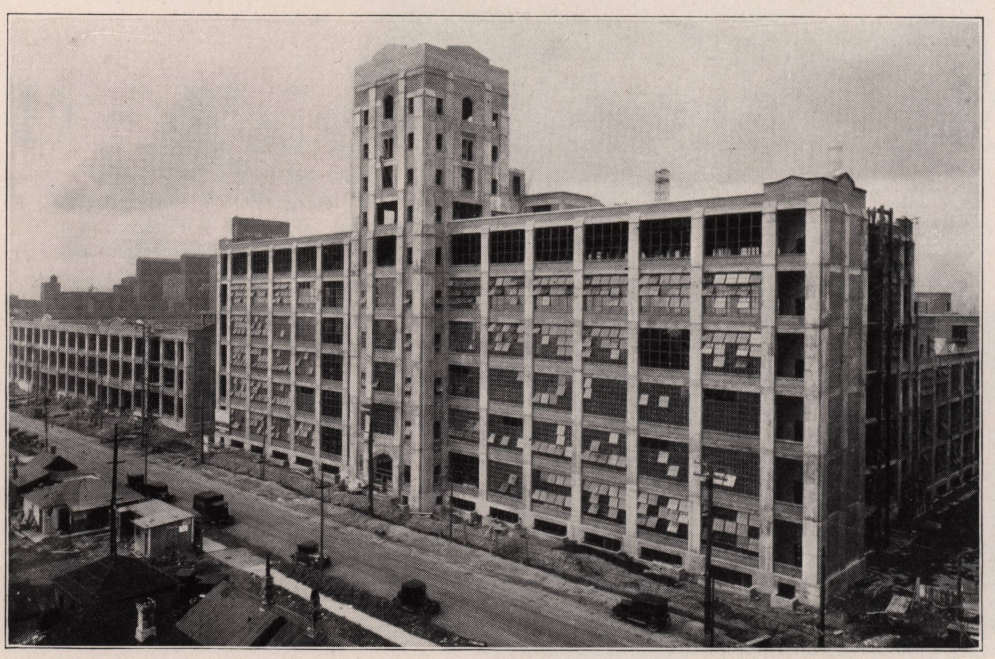
The various steps, ramps, runways, window and door areas, copings, etc., were built of concrete poured into forms and faced with neat cement.

Where stucco work occurs on exterior bays and spandrels, Frank Miller and Son, plasterers, Philadelphia, complying with the specifications, applied a portland cement stucco in a deep ivory tint with a trowel dash finish. Interior plaster was patent hardwall plaster.

The plumbers, Rickley Bros., Philadelphia, found a use for cement in making up the joints in the terra cotta soil lines to city sewer, as well as for various other purposes. The inside face of all stone basement walls was finished with a cement mortar.

Williamson & Messenger, Philadelphia, set the floor and wall tile in close to four hundred bath and toilet rooms in 1:3 cement mortar. Marble work for vestibules and lobbies also was similarly set.

And, so on up to the asbestos roofing tiles crowning the various gables and pents, in which portland cement was used, there is hardly a branch of the construction of this imposing apartment center but what was dependent to a greater or lesser degree on "portland cement."

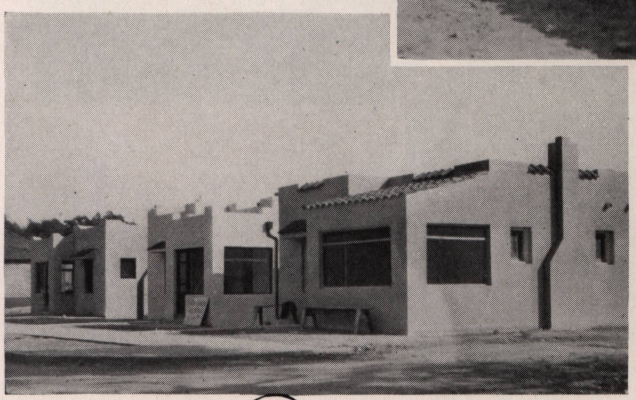


This modern multi-family residence building was completed during the fall of 1930.

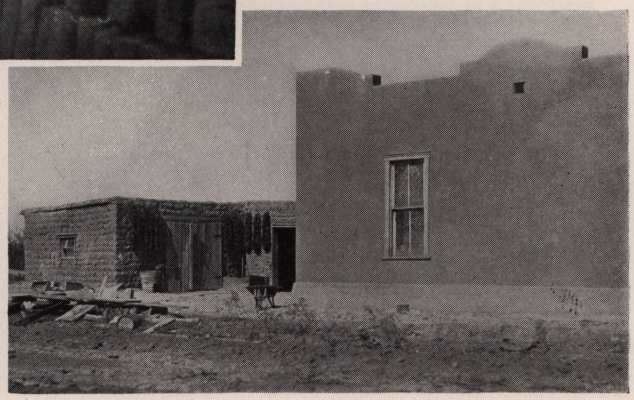
Piles of Adobe Bricks made from the Cellar excavation, Albuquerque, N.M.

These Adobe Bricks are to be used in building a modern Cement Stucco house

Completed Stucco house built with Cement covered Adobe walls



A Modern Cement Stuccoed Adobe House built on a concrete foundation



From Mud Houses to Cement Palaces

by Ivan E. Houk

ADOBE houses, in other words, houses built of sun-dried bricks, are now being converted into modern palatial residences through the judicial use of cement. Formerly a reference to an adobe house brought to mind a dirty hovel of an illiterate Mexican peon or a shiftless American citizen. Nowadays such a reference may mean a ten, fifteen or even a twenty-five thousand dollar modern home.

Adobe clay is one of our oldest known building materials. Adobe houses have been built and rebuilt for centuries, in the arid parts of various foreign countries as well as in the western and southwestern sections of the United States. The Israelites, during their enforced sojourn in Egypt, made adobe bricks from the mud along the banks of the River Nile, mixing broken reeds or straw with the mud in order to obtain the required plasticity and cohesion, and drying the bricks by the heat of the sun. Japan, China, Germany, Mexico, Peru and many other countries have their adobe buildings. The Spaniards from Mexico introduced adobe construction into this country in the sixteenth century, when they settled the Rio Grande Valley of New Mexico.

In the old style adobe construction, methods still used by the poorer people in the southwestern parts of the United States, the walls are built of adobe bricks from the ground up, the outsides of the walls covered with a mud plaster, and the roof built of poles, brush, and dirt. In the roof construction the poles are stripped of their bark and laid across the top of the building about four feet apart, the bushes or willow reeds are laid transversely across the poles, and the whole is covered with four or five inches of adobe clay. In the wall construction the adobe bricks are laid in place with a mud mortar and allowed to settle for a time before applying the mud plaster. Since the rain soon washes deep streaks in the mud coating, resulting in the falling off of large areas of plaster, it is necessary to apply a new coat each year.

This type of construction furnishes fairly comfortable homes for a time, provided the rainfall is infrequent and not excessive. However, sooner or later, water standing on the ground around the walls, as it often does after moderate rains, soaks into the adobes, thus gradually weakening the walls and finally causing their collapse. Whenever an unusually heavy thunderstorm occurs, or a general rain of unusually long duration, the water soaks through the roof and through the mud plaster into the walls, causing similar failures.

Nowadays, modern adobe houses are made permanent by placing the walls on concrete foundations extending eighteen inches or two feet above the ground, laying the adobes in mortar instead of mud, covering the outsides of the walls with a cement mortar stucco, and covering the roofs with tile or other permanent roofing materials. The insides of the adobe walls are also plastered with a cement mortar, before applying the usual hardwall plaster finish, applying the cement mortar directly on the adobe surfaces. On the outsides of the walls nails are driven into the adobes, generally two in each brick, before applying the mortar. The nails provide an additional bond between the cement and clay surfaces, as well as furnishing a

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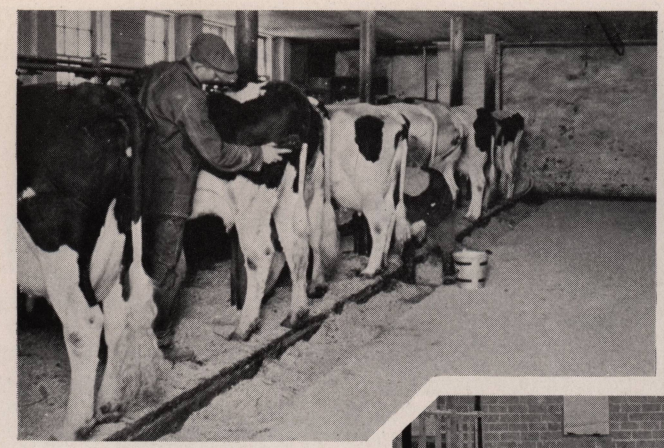

Photo No. 7—(Above) Interior of a dairy barn in which concrete mangers and floor have been built

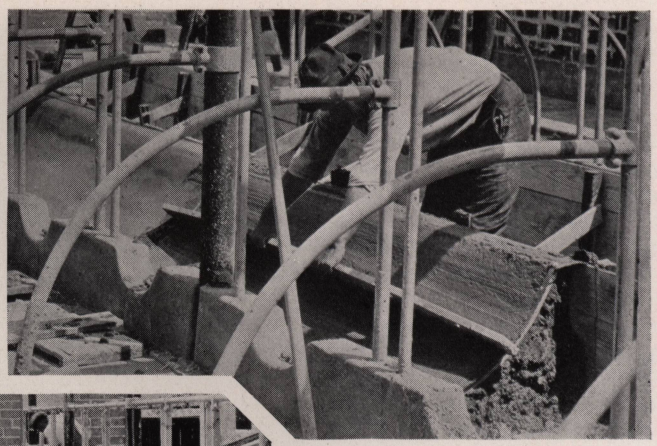

Photo No. 5—(Above) Smooth, permanent mangers may be molded from concrete. Note how the workman is shaping the mangers to proper curve, using template and guides

Photo No. 6—(Right) A neat looking job is obtained when well-braced forms are used

SANITARY DAIRY STRUCTURES PLAY IMPORTANT PART IN MILK PRODUCTION FOR PROFIT

Part I—Dairy Barn Floors

BECAUSE enormous quantities of milk, one of the food staples, are consumed raw it is imperative that every precaution be taken to prevent its becoming contaminated in any way. Sanitation, therefore, is especially important in the dairy industry.

In the interest of increased sanitation, there is a general movement throughout the country to improve milk production and milk handling procedures. The United States Public Health Service, for example, is sponsoring a national program for the unification of milk control. This program urges the adoption of what is known as the Standard Milk Ordinance. Appreciating the importance of such standard regulations, many states and cities have adopted or are adopting this ordinance or one based on its essential requirements.

Many dairymen are learning that enforcement of the Standard Milk Ordinance usually brings increased production of milk within a comparatively short time. There is an excellent example of this in Chattanooga, Tennessee, where Dr. A. H. Flickwir is director of public health. "In 1925 this city," according to Dr. Flickwir, "adopted the U. S. Standard Milk Ordinance, at which time we were using 3500 gallons of milk daily. This city is now using 7500 gallons of milk daily. This increase is attributed to the quality of the product assured by the enforcement of the ordinance."

It is interesting to note that dairymen and others engaged in the dairy industry are using concrete to provide sanitary dairy structures—dairy barns, milk houses and milk cooling tanks which meet the requirements of the Standard Milk Ordinance. In some communities such concrete buildings have been erected so that the facilities for handling milk will comply with ordinances already in force; in others, dairymen anticipate the adoption of ordinances and are building accordingly.

This article is devoted to the essential construction information one must have before attempting to build dairy barn floors. The final article on milk houses and milk cooling tanks will appear in the next issue of *ALPHA AIDS*.

Dairy Barn Floors—How to Build Them

The wide use of concrete for dairy barn floors is proof that it best provides the qualities desired in a floor for dairy cattle. Concrete is watertight and non-absorbent; it is disinfected easily and thoroughly. Its smooth, hard surfaces are easily kept clean and do not retain odors which when present taint the milk. These advantages, plus the durability and economy of concrete, account for its general popularity as a flooring material in dairy barns.

Importance of Careful Planning. Before starting to build a concrete dairy barn floor it is well to sketch out the ideas on paper, arranging the stalls, feed and litter alleys with a view to saving time and reducing labor in caring for the animals. It is easier to make changes on paper than after the floor is built, and less costly. The double-row arrangement of cows is considered the most economical, and whether the cows face in or out is largely a matter of personal preference. Standard cross sections illustrating both types are shown in Fig. 1.

Preparing the Site. Clear the site, removing all manure, soft earth, old plank floors and other material. Then bring the area to the required level, cutting the high places and filling the low places where necessary. Compact all fills thoroughly to provide a firm base for the concrete. When the barn is on a well-drained site, the floor can be placed directly on the compacted earth. If the site is not well drained, a tamped fill of cinders or coarse gravel, 6 or 8

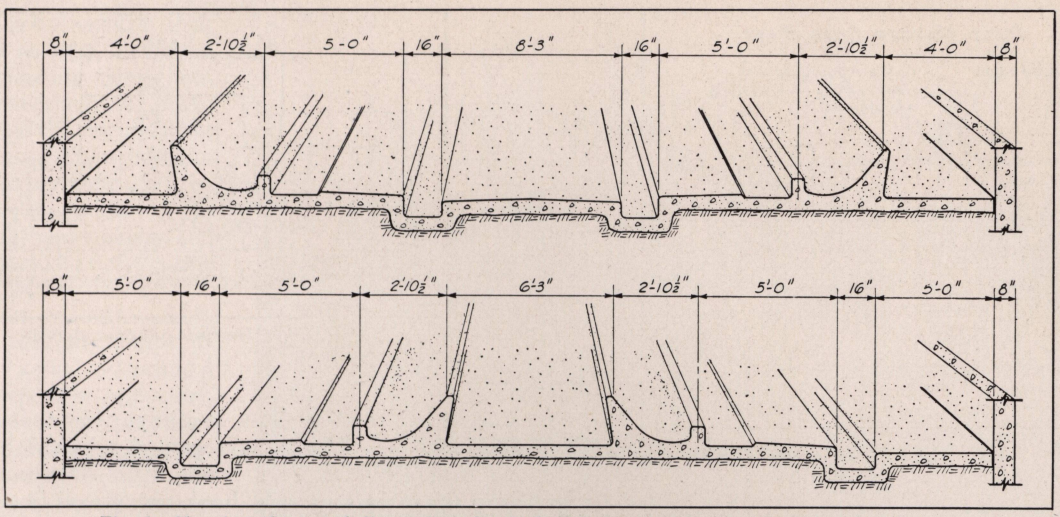

Fig. 1—Showing the usual dimensions for 36-foot barn, cows facing out (above) and cows facing in (below). For barns of other widths, dimensions of feed and litter alleys are varied to fit

inches deep, is recommended. In very wet soil, run lines of drain tile under the floor to carry away excess water.

Building the Floor. Plan the floor so that the litter alley will be about on a level with the doorsills, giving the litter alley a slope of 1 inch toward the gutter. The gutter usually is made 6 inches deep on the litter alley side and 8 inches deep on the side next to the standing platform. For convenience in flushing, slope the gutter about 2 inches in 50 feet toward one end of the barn where a suitable outlet can be provided. The standing platform is also sloped towards the gutter to insure good drainage.

Build the manger with its bottom 1 or 2 inches higher than the standing platform and sloping slightly in the same direction as the gutter. The feed alley floor is built either on a level with the platform or raised to the height of the manger front. The latter, called the "sweep-in" type of feed alley, is objected to by some health officers, however, who claim that it aids in the spread of disease.

Forms for curbs, mangers and gutters should be of smooth lumber, carefully set to grade and held in place with sufficient stakes to insure against bulging of the forms. Surfaces coming in contact with concrete should be oiled to facilitate removal.

A standard dairy barn floor is shown in Fig. 2, while alternate manger details are shown in Fig. 3. The steps in building the floor are pictured in Fig. 4, and if these are closely followed the job is a comparatively simple one. The standard stall dimensions for various sizes and breeds of cattle are as follows:

Breeds	Width	Length of Platform		
		Small	Medium	Large
Holstein	3′6″ to 4′0″	4′10″	5′2″	5′8″
Shorthorn	3′6″ to 4′0″	4′8″	5′0″	5′6″
Ayrshire	3′6″ to 3′8″	4′6″	5′0″	5′6″
Guernsey	3′4″ to 3′6″	4′6″	4′10″	5′4″
Jersey	3′4″ to 3′6″	4′4″	4′8″	5′0″
Heifers	2′9″ to 3′2″	3′8″	3′10″	4′2″

How to Figure Quantities for Floors. Each 100 square feet of floor, including standing platform, gutter, feed and litter alleys, when the slab is 5 inches thick of a 1:2:3 mix, requires about 11 sacks of ALPHA CEMENT, 1 cubic yard of sand and $1\frac{1}{4}$ cubic yards of crushed stone or pebbles. Each 10 lineal feet of manger and curb of standard construction (manger front 24 inches above feed alley) requires about $9\frac{1}{4}$ sacks of ALPHA CEMENT, $\frac{3}{4}$ cubic yard of sand and $1\frac{1}{8}$ cubic yards of stone or pebbles. These quantities may vary 10 percent either way depending upon the character of the aggregate used.

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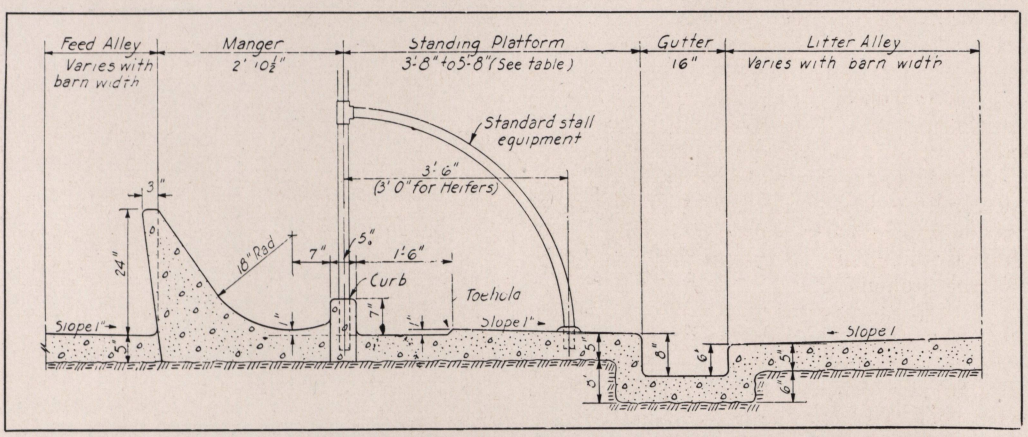


Fig. 2—Cross section of standard dairy barn floor. Construction notes: Place concrete directly on well-drained soil; place on 6-inch cinder or gravel fill on poorly drained soil. All surfaces float finished except manger, feed alley and gutter, which are trowel finished; all edges rounded

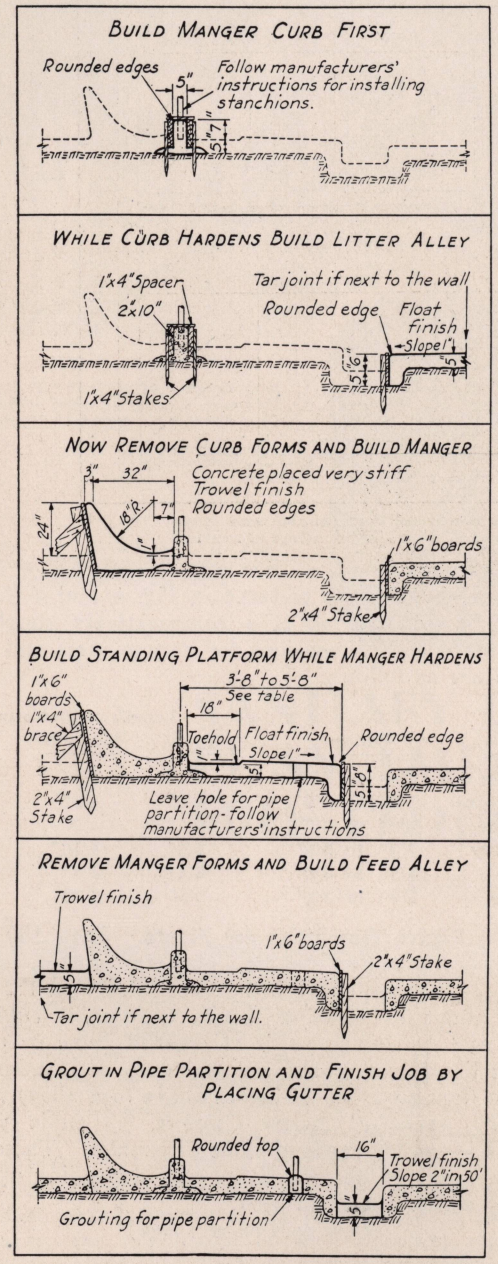


Fig. 4.—Showing, from top to bottom, the six steps required in building a concrete floor for the dairy barn

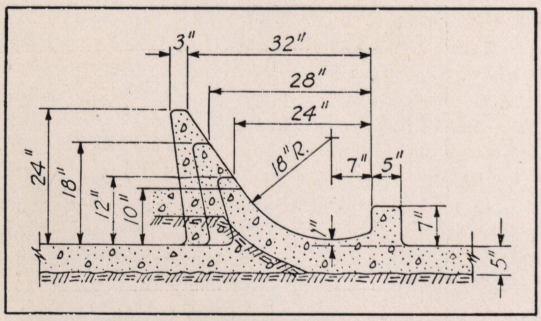


Fig. 3—Alternate manger details

Mix for Dairy Barn Floors. With dry sand and crushed stone or pebbles, 5 1/2 gallons of water are required per sack of cement; with damp aggregates, 4 1/4 gallons; with wet aggregates, 3 3/4 gallons. As a trial batch combine 1 sack of ALPHA CEMENT, 2 cubic feet of sand and 3 cubic feet of coarse aggregate (1:2:3 mix) and the amount of water specified according to the condition of the aggregates. If the mixture is too wet, add more sand and coarse aggregate; if too dry, use less sand and coarse aggregate in the next batch.

Use Clean Sand and Coarse Aggregates. Sand should be clean, hard, free from fine dirt, loam, clay or vegetable matter, and be well graded from fine up to those particles that will just pass a screen having meshes 1/4 inch square. Pebbles, crushed stone or coarse aggregate should be tough, fairly hard and free from any impurities that are objectionable in sand. Coarse aggregate should also be well graded for concrete dairy barn floors, with sizes ranging from 1/4 inch up to 1 1/2 inches. Bank run gravel is seldom suitable unless screened to separate sand from pebbles and then recombined in correct ratio of fine to coarse. Water that is fit to drink is suitable for making concrete.

Measuring and Mixing Materials. All materials, including water, should be accurately measured for each batch. Concrete may be mixed by machine or by hand, the former being preferred. In either case mixing must proceed until stone or pebbles are completely coated with a cement-sand mortar. With a batch mixer, it is recommended that mixing continue for at least one minute and preferably for two minutes after all materials, including water, are placed in the mixer drum.

Placing and Finishing Concrete. For floors, the mixture should be rather stiff, requiring some tamping to settle it into the forms. The same mixture of concrete is used for the full thickness of the floor. Where a gritty non-slip surface is desired, the wood float is used; for smoother finishes, the steel trowel is used in addition to the floating process. Concrete should be placed within 45 minutes after mixing.

In the next issue of *ALPHA AIDS*, which will be ready for mailing about June 15, 1931, a helpful illustrated article on concrete milk houses and milk cooling tanks will appear. Sanitary dairy structures are easy to build and mean greater profit to the producer.

Special service sheets and booklets on permanent farm improvements and buildings, such as manure pits, silos, barns, watering tanks, hog houses, etc., available upon request.

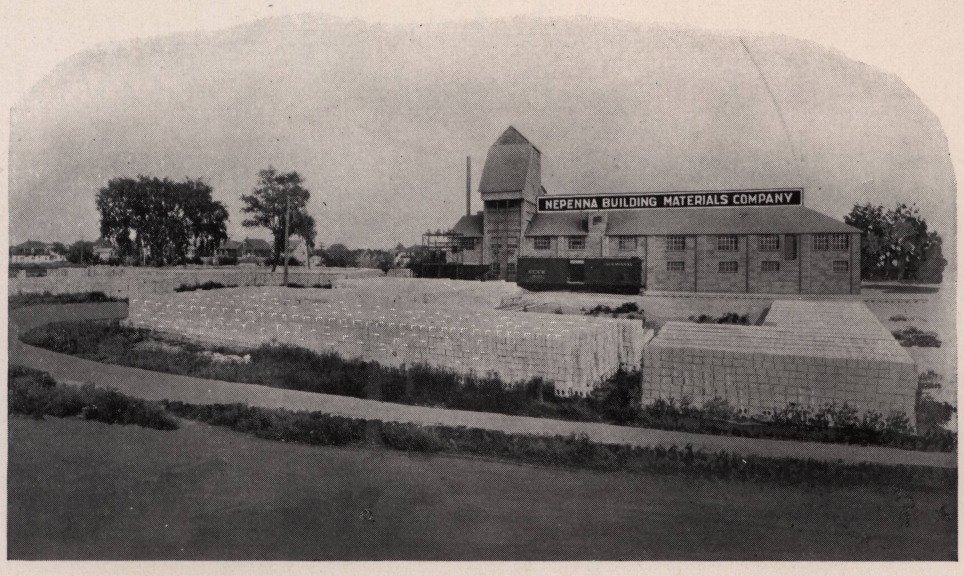
(Concluded from page 11)

certain amount of reinforcement to the cement coating. In the better houses wire mesh reinforcement is fastened to the nails before applying the cement.

The cement mortar is usually mixed in the proportions of 1 to 3, for both outside and inside coatings. The outside coat is usually made three-quarters of an inch, or an inch, thick. Any desired color effect or type of surface finish can be obtained, just as in any stuccoed building. It is best to allow the walls to settle for a few months before applying the cement mortar. This will prevent the formation of cracks. Nearly any kind of soil which does not contain appreciable proportions of gravel can be used in molding the adobes. Often the basement excavation is used for this purpose. Stuccoed adobe houses built by the methods described are warm in the winter and cool in the summer, and cost no more than other types of permanent construction.

The Lasting Value of an Attractive Exhibit

THOSE who exhibit their products at fairs, industrial and engineering expositions, builders' and home shows, etc., learn by experience that the displays must be both educational and pleasing to the eye if adequate results are to be realized. There is a means of exhibiting that will create interest and good will of direct and future value in your sales effort.



An exhibit that created favorable comments and marked interest, as well as "pulled" actual orders and a fine list of prospective customers, some of whom made purchases since the exhibit, is illustrated below. It features the products of the Fireproof Specialties Company and the Nepenna Building Materials Company of Kingston, Pa., both owned by F. L. Schott.

The exhibit was at the Wyoming Valley Made Industrial Exposition, Wilkes-Barre, Pa. A complete line of thirty different sizes of Straub cinder building units, including chimney tile, as well as concrete brick, both face and common, of various textures and colors, and a "Monolithic" grave vault were exhibited.

In the center of the booth two miniature homes and garages will be noticed. The miniatures are exact reproductions from plans and show the usage of the products. These miniatures were obtained from the National Building Units Corporation of Philadelphia, Pa. A slide lantern was in continuous operation and showed pictures of laying the various units, progress during construction and finished buildings of different types.

During the week the exposition was visited by at least 60,000 people. Different pieces of literature were handed out to those who evidenced an interest in the products displayed and a careful check afterwards showed that practically all of the literature handed out was taken home by the visitors.

A temporary exhibit is a means of placing your products before the masses. Your first consideration should be a study of the people that will view it. The exhibit should be planned for the purpose of attracting the prospect from the crowd.

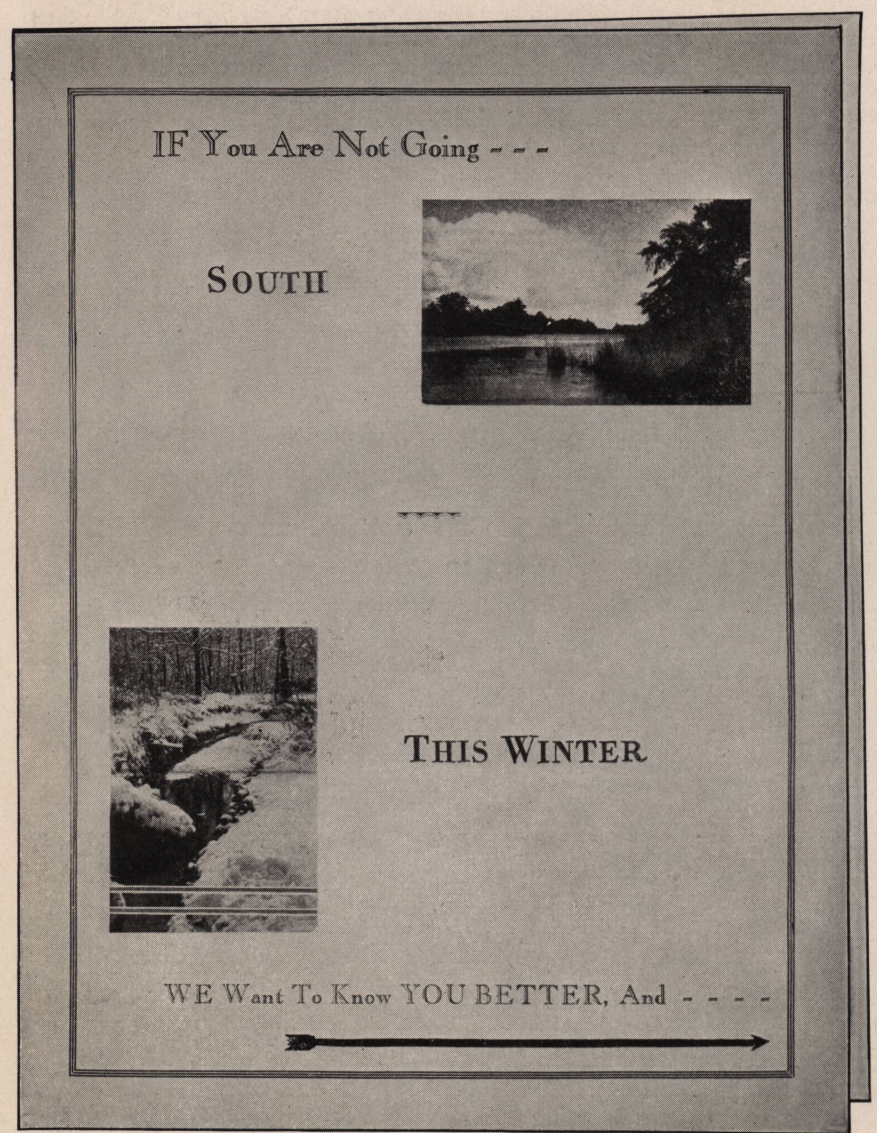
A view of the plant and yard of the Nepenna Building Materials Company is also shown here. The company has been in existence since April, 1923, and ALPHA CEMENT has been used continuously.

A Friendly Leaflet Breeds Good Will

THOSE who advertise in magazines or newspapers or by billboards, radio, direct mail, etc., are concerned about the amount and kind of attention their messages receive.

Illustrated here is an attractive leaflet mailed by J. W. Hasenflu, Manager of the Peoples Coal and Builders Supply Company, Sharon, Pa., to stimulate coal sales for the winter of 1930–1931. It was sent to a mailing list of approximately five thousand names. The list was built from the city directory—owners of property being taken from this source—and with the aid of a local credit bureau. Only names having a good credit rating were used.

As will be seen by the illustration of the 4-page leaflet, the pictures and the copy on the front page naturally lead to the inside pages. The leaflet is well planned and profusely illustrated. The "two-text" paper stock used had the appearance of two-color printing. Pages one and four were orange color and pages two and three were white, with the printing in black on all pages.



Page two of the leaflet opens up with a sincere message signed by J. W. Hasenflu, Manager, and reads:

"We want you to know us better. Some one has said that you cannot dislike a man if you really know him. So, in laying in your coal this fall, we want to extend a cordial invitation to you to come to the yards, see the coal before you buy, and, incidently—meet us.

"We are all regular fellows. We sweat blood making both ends meet. We worry about the cost of fuel—yes, we burn our own coal. We wish John Jones would pay us—so we could pay Bill Brown. We have some sunshine and some rain—and then a cloudburst, we—but what's the use? Come down and meet us. You'll like us because you'll find we're regular fellows—just like you.

"And if your fliver—or your Rolls Royce—is not in running order, just telephone 780, we'll send a car out after you, bring you to the yards and take you back home again, with no obligation on your part whatever.

"Anticipating the pleasure of meeting you personally, we are, with the best of good wishes,—."

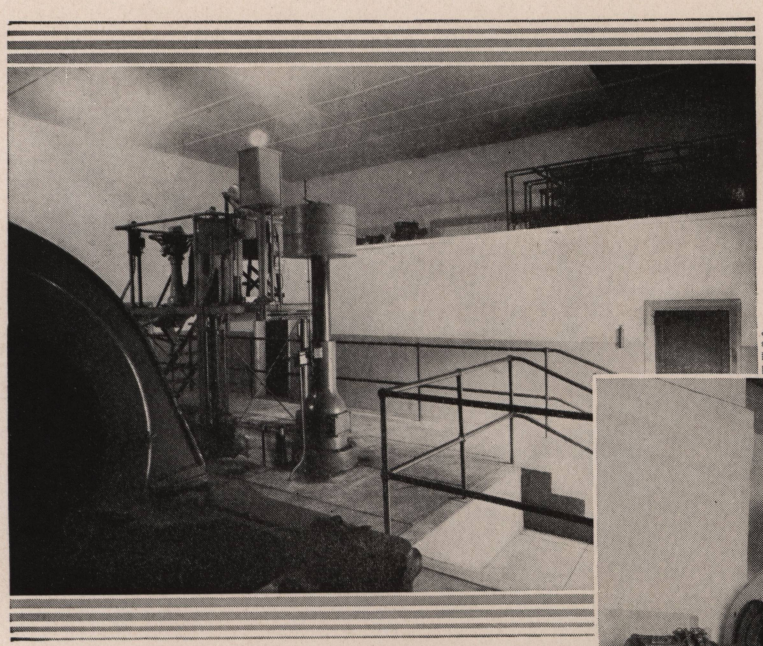
At the bottom of the same page is a view of the yard.

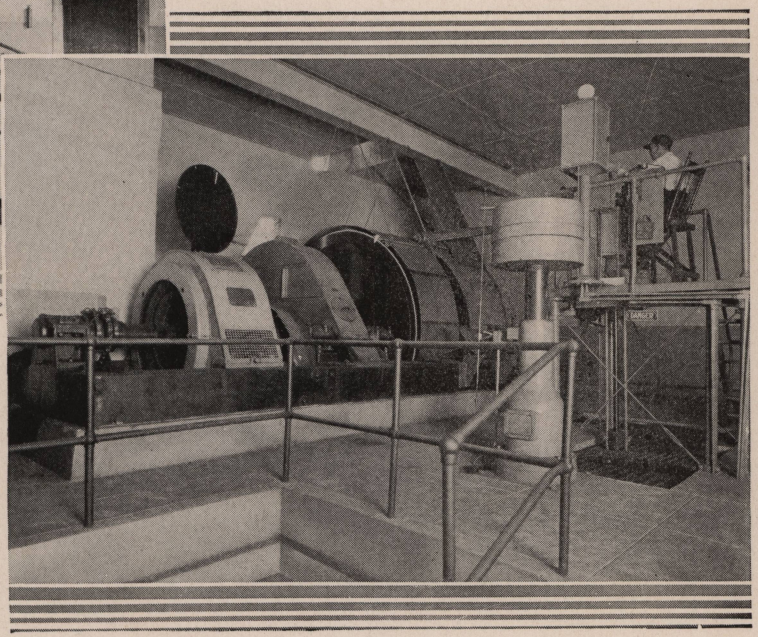
Page three is a pictorial introduction of Salesman George V. Adams, Miss Mary L. Hanrahan, who takes and dispatches the orders, and a fleet of trucks and experienced fuel handlers. Salesman Adams is featured as having made a study of house heating equipment and will "gladly inspect your heating plant and recommend the proper fuel."

The last page carries views of the office and of J. W. Hasenflu, Manager. In connection with the picture of Mr. Hasenflu, the following pertinent copy appears:

"Established this business in 1921. At your service at all times regarding any matter. Large or small. Actively engaged in seeing that we provide worthy products at reasonable prices."

The leaflet was mailed around the middle of October, 1930, but the mild and pleasant weather that followed was not conducive to immediate sales. However, the circular was not intended entirely as an immediate "business-getter" but rather as a "good will" builder. The thought was, as Mr. Hasenflu said, "to bring to the attention of the home-owner the personnel of our business organization and investment responsibility behind our delivery units. As over ninety percent of a merchant's coal orders are now placed by telephone, we know a great number of people have the impression that a coal merchant and his assistants are as begrimed as a driver necessarily becomes during the day's occupation and they fail to appreciate the investment and specialized effort behind the actual delivery. Consequently this existing impression affords the irresponsible 'snow bird coal hauler' an opportunity to peck at a real merchant's business."





HIGH EARLY STRENGTH CONCRETE

Saves Valuable Time

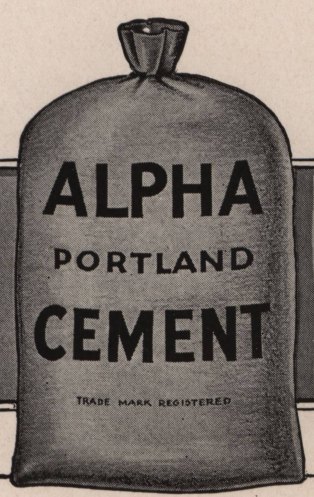
IN AN ELECTRIC HOIST INSTALLATION

IN THE MIDST of high production and when time lost was most expensive, the steam hoist at the mine of the New England Fuel & Transportation Company, Grant Town, W. Va., broke down.

It was decided to install an electric hoist rather than repair the old one, and the pouring of a new hoist foundation was started. To save time, and with the temperature well below freezing, methods for obtaining high early strength concrete with ALPHA CEMENT and for the protection of the concrete from freezing, were followed.

Six hours after pouring was completed, a heavy hammer would rebound from the concrete without chipping or denting it. The same test held for a sixteen-pound sledge within ten hours. Twenty-four hours after pouring, bed plates were lowered on new foundation.

Helpful literature on high early strength concrete and cold-weather construction free upon request.



ALPHA PORTLAND CEMENT COMPANY

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CONCRETE as a road paving material attained its twenty-second birthday this year.

The first mile of rural concrete was built in 1909 in Wayne County, Michigan, and road builders from all over the country came to see this first mile. The growth of concrete road construction was small until 1920, when 2770 miles of concrete roads were voted and this annual mileage has had a gradually ascending volume, reaching 10,510 miles in 1930.

Wayne County, Michigan, the birthplace of the first mile, has more than 625 miles of concrete roads in service....most of them wider than 20 feet.

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